

APPENDIX B

SAMPLE STAND PRESCRIPTION SHEETS AND MAPS

Mark N. Hdwd.
to Cut

STAND PRESCRIPTION SHEET FOR STAND 9

STAND PRESCRIPTION FOR COMPARTMENT 2, STAND 9 INDIAN RIVER FOREST AREA.
T36N, R6W, SECTION 4, S 1/2 OF SE 1/4, SE 1/4 OF SW 1/4.

STAND DESCRIPTION

This stand is located along the north side of Middle Village Road and is 91 acres in size. The terrain of this stand is quite variable, ranging from a relatively flat area immediately adjacent to Middle Village Road to a moderate-to-steep slope that occupies the northern one third. A "bottomland" flat area is located along the far northern edge of this stand.

The terrain has also dictated past cutting practices which has helped to produce a variety of size classes. The "flat" portion near Middle Village Road, has been selectively cut several times and contains larger diameter trees than the northern slope. This flat part is composed of 52 ft² of Hard Maple, 35 ft² of White Ash, 12 ft² of Black Cherry, 11 ft² of Beech, 2 ft² of Basswood and 1 ft² of Red Maple (total of 113 ft² of basal area). Diameters range from 6" to 20" with the great majority in the 9" to 14" category. Northern Hardwood regeneration has been established in spots.

The "bottomland" located along the far northern edge of this stand is very similar to the flat area just described with the exception of containing more Beech and Black Cherry. Yellow Birch is more common here which is largely absent from the other parts of this stand. Northern Hardwood regeneration is not well established in this section.

The northern side slope is composed primarily of Northern Hardwood poletimber in the 6, 8 and 10 inch classes. Species composition is much like that of the large stand immediately to the north, which was heavy to Hard Maple and White Ash. Northern Hardwood regeneration is absent from most of this north slope stand.

With the exception of the far northern flat section, this stand can be characterized by high quality timber. The northern flat section, due to it's location and aspect, is composed of medium quality Northern Hardwood.

TREATMENT OBJECTIVES

- 1) Crop tree release
- 2) Manage for the best tree in place
- 3) Consider removing any trees that are greater than 22" DBH.
- 4) Reduce stand basal area from 113 ft² to approximately 77 ft².
- 5) Create regeneration holes to allow for the establishment of Northern Hardwood regeneration.
- 6) Retain the minor species component of the stand.
- 7) Retain wildlife trees

MARKING PRESCRIPTION

- 1) Locate 60 -75 crop trees per acre spaced approximately 25-27 feet apart. In areas of this stand where 6" to 9" trees predominate, the crop tree release will consist of creating a seven foot opening around the crown of the tree. This means that adjoining lesser quality dominants, codominants and intermediates will have to be marked for removal. In areas where trees greater than 9" DBH predominate, the crop tree release will consist of removing the two nearest lesser quality crown competitors from the dominant, codominant and intermediate size classes.

- 2) Crop trees are defined as trees which have the potential of making a grade one sawlog when they are mature. A grade one sawlog is any tree capable of producing 16 feet of clear lumber. A crop tree can be ANY species of tree. It is important to manage for the best tree in place at all times.
- 3) Because parts of this stand have been selectively cut in the past, diameters of some trees are approaching, and in some cases, exceeding 22". These trees should be looked at closely for removal. While it is not mandatory that all trees greater than 22" DBH be marked, trees in this size category should be considered mature and treated accordingly.
- 4) After the crop tree has been picked out and properly released, additional trees will have to be removed to reduce the basal area to the desired target. First remove high risk trees from the stand followed by commercial subcanopy trees beneath the crop tree (commercial trees will be defined as any tree that contains at least one 100" sawlog or pulpstick). Lastly, remove any other lesser quality intermediate and codominant tree from the stand to reduce basal area to the desired goal.
- 5) Regeneration holes will have to be created in this stand in order to hasten it's development toward a more varied structure. In the previously cut section of the stand adjacent to Middle Village Road and in the "bottomland" flat section (far northern edge), establish five 30 foot regeneration holes per acre. In the dense poletimber section of this stand along the northern slope, create only one 30 foot regeneration hole per acre. It is important to note that the 30 foot regeneration hole refers to the size of the opening to be created among the crowns of the trees and not stems on the ground. In the dense poletimber section, regeneration holes will be created in areas of lesser quality trees if possible. If only high quality trees exist on any particular acre, then regeneration holes should be deferred. It is also essential that all trees greater than 1" DBH be marked within the 30 foot regeneration hole.
- 6) Species diversity is an important consideration in this stand and no one species will be discriminated against. Due to the exceptional high quality of certain species like White Ash and Hard Maple, it would be easy to eliminate other species like Beech, Yellow Birch and Black Cherry. This area must be marked with the awareness that ALL Northern Hardwood species are to be represented in the ecosystem once this project has been completed. As a result, in the "bottomland" flat area along the northern edge of this stand (which contains the greatest variety of species), no Yellow Birch are to be marked and at least five Black Cherry per acre are to be left.
- 7) Over the rest of this unit, at least two large crowned Beech per acre and two den trees per acre will be left. Beech which have a "platform" crotch structure for raptor nest support, located beneath the foliage canopy, shall not be marked.
- 8) Nearly dead trees usually have little value for timber products but have good potential for wildlife snags. Where such trees exist, an average of two snags per acre may be left unmarked.

Michigan Department of Natural Resources
PC Ancillary Program Version 2.01

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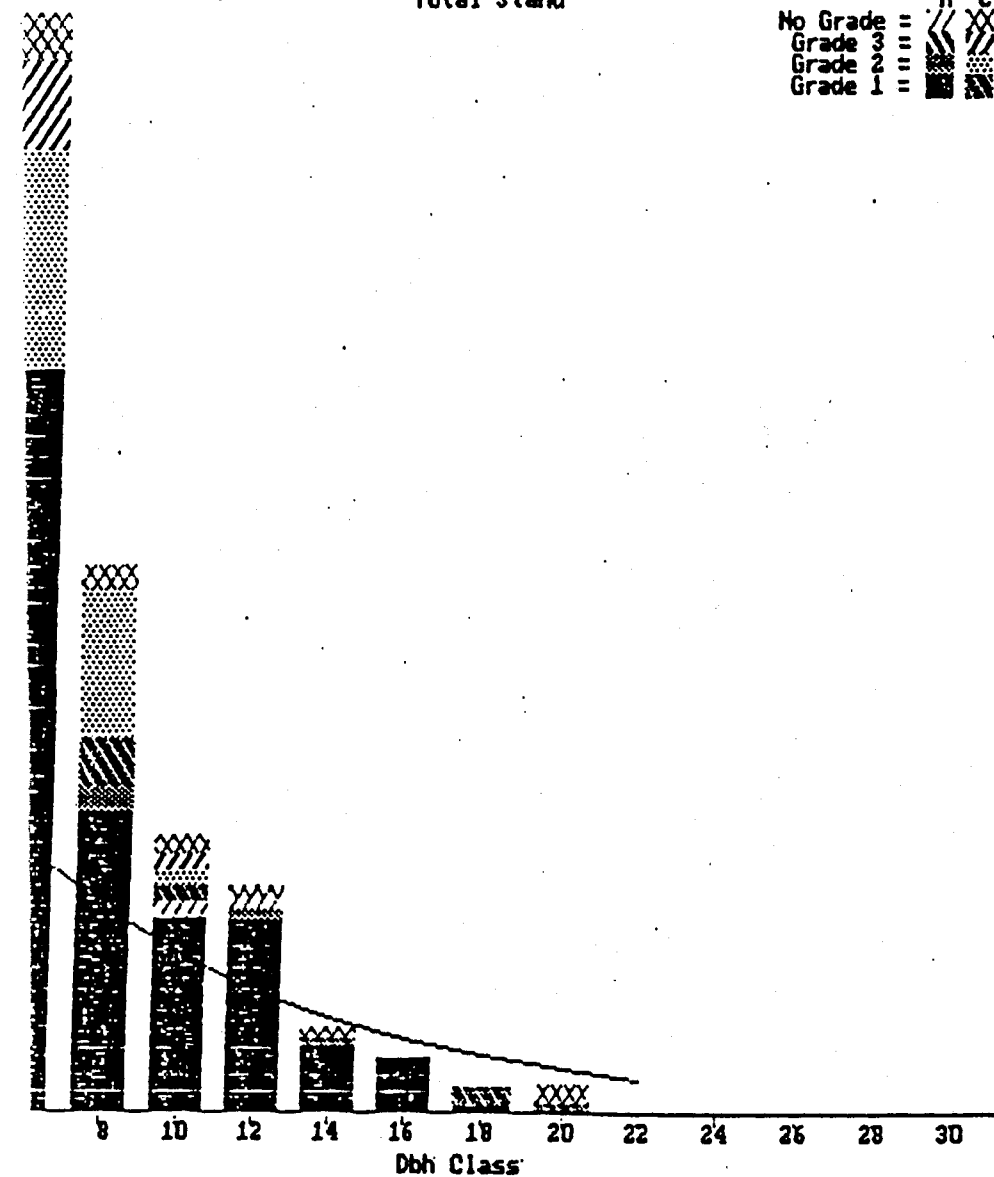
Stand 009

Basal Area 10.0
092 Acres

Number of Plots 10
International Cut

Total Stand

	R	C
No Grade	==	==
Grade 3	==	==
Grade 2	==	==
Grade 1	==	==



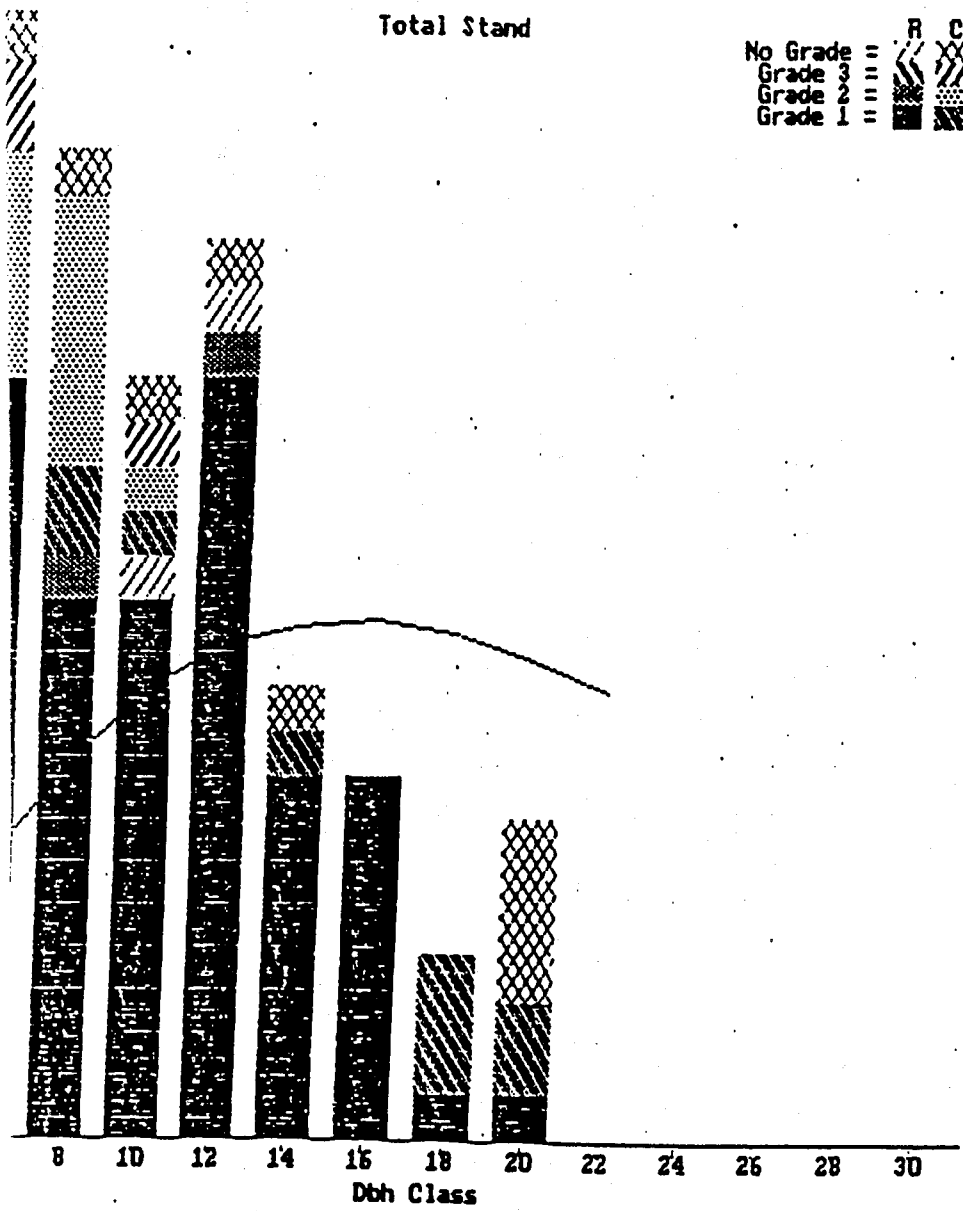
3/1/96
3:00 pm

et 51
Qual BA 77.0
Ratio 1.5

Compartment 002
Basal Area 10.0
092 Acres

Stand 009
Number of Plots 10
International Cut

Forest 51 Compartment 002 Stand 009



SALE NO.	YEAR	SALE TYPE

MAILED BY

DATE

BIELECKI

4/25/96

4

Suo.

Scale: 1 inch =

and

COVER TYPE

DENSITY

H - Hemlock

J - Jack Pine

L - Lowland Brush

M - Mol, Sch, Brch

N. Marsh

Q • Oak

P - Leonard Poplar

Q - Mr Swamp Cnpr

R - Read First

8 - Black Spruce

T - Tarrarack

U - Upland Brush

V - Bag of Marun

W. White Pine

X - Non Stocked

I. Water

1 - Non Blocked

2. Seeding Sapling Pool

3 - Seeding Seating Well

4 - Pole Timber Pool

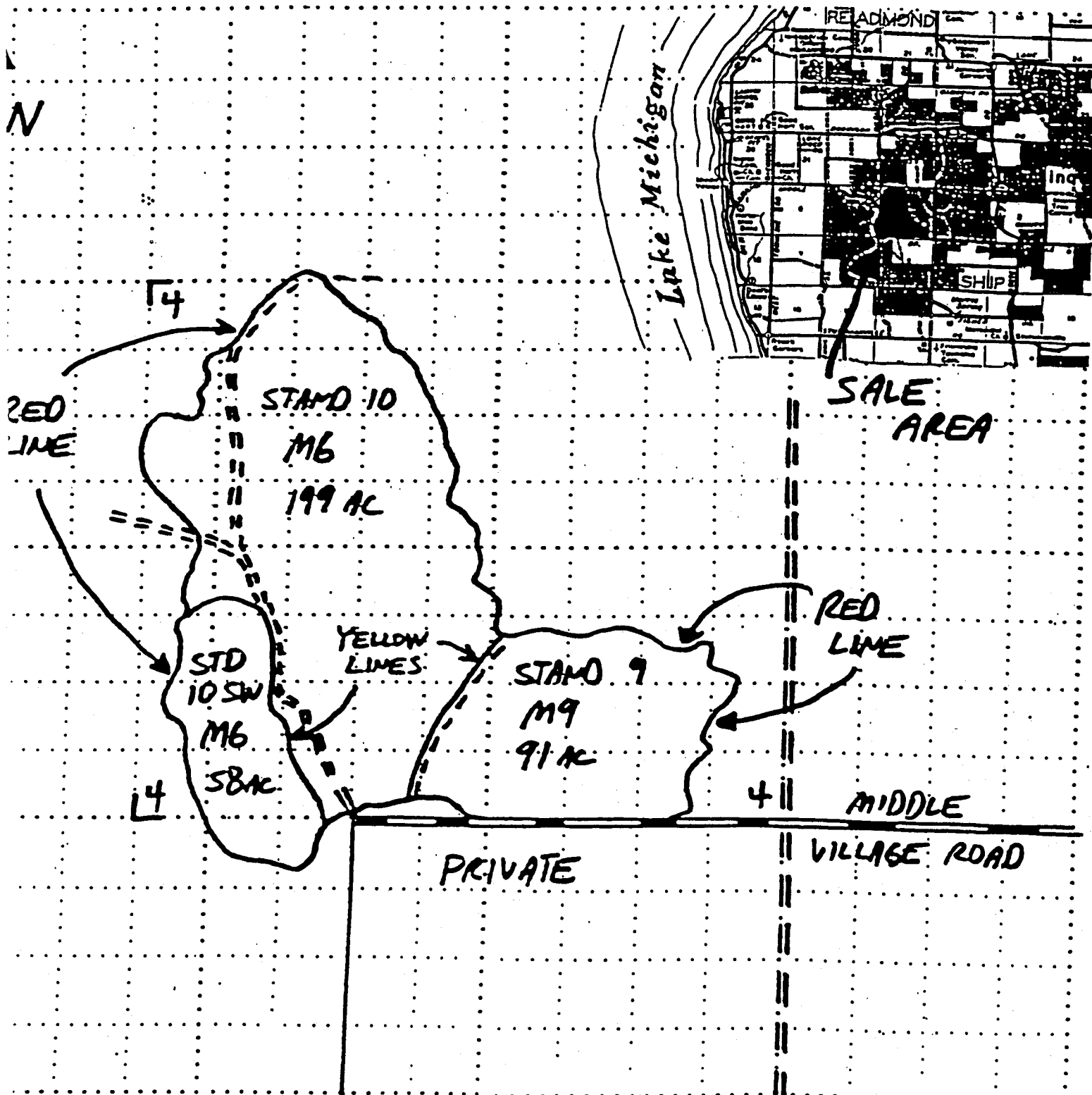
5 - Pole Timber Medium

8 - Pole Timber Well

7 - Saw Timber Base

8 • Saw Timber Medium

9 - Saw Timber Well



Mark N. Hdwd.
to Leave

MARKING PRESCRIPTION

TIMBER SALE # 44-031-98-01

FOREST LAKE SUPERIOR S. F.

AREA NAUBINWAY 44

SITE NAME DELLS-MILLS CAFFEY RD. leave
ACRES 220.1

COMPARTMENT 5 STANDS: 5, 3, 29, 129 unit III, IV
COMPARTMENT 15 STANDS: 22 unit XII, XIII, XVIII

T 43N R6W	SEC 15	DESC:SESW
T R	SEC 22	DESC:N1/2, S1/2N1/2, S1/2SE
T R	SEC27	DESC:N1/2NE
T R	SEC26	DESC:NWNW

ACCESS INFORMATION EXCELLENT ACCESS ON CAFFEY RD. EXCEPT EARLY IN A WET SPRING. STANDS ARE WELL ROADED FOR MARKING

STAND DESCRIPTION STANDS WITH FEW QUALITY TREES, STAND # 29-- GRADE #1-3BA, #2-70BA, #37BA; ST. 5--GRADE # 1-10BA, #2-72, #3-48; . COMP 15 ST 22-- #1-20BA, #2-83BA, #3-60. THE QUALITY TREES ARE WHITE PINE, WHITE SPRUCE, AND AN OCCASIONAL Y.BIRCH. SOME RED MAPLE CONTAIN SAWLOGS. STAND COMPOSITION VARIES: RED MAPLE-34-94BA, CHERRY-7-20BA, Y. BIRCH-3-8BA, HARD MAPLE-3-38BA, BALSAM-3BA, SCATTERED WHITE PINE, WHITE SPRUCE, HEMLOCK, ASPEN, AND CEDAR. MUCH OF THE STAND HAS A BALSAM UNDERSTORY. BA IS VERY HIGH RANGING FROM 162 TO 110.

TREATMENT OBJECTIVES 1. TO HARVEST LOW QUALITY TREES, MATURE SAWLOGS, AND THOSE SAWLOGS THAT WILL NOT IMPROVE OR DECREASE IN VALUE IF NOT HARVESTED, ALLOWING POTENTIAL SAWLOG TREES TO GROW AT A FASTER RATE. 2. TO REPRODUCE WHITE PINE, HEMLOCK, W. & Y BIRCH, AND ASPEN. TO RETAIN ALL W. PINE, HEMLOCK, CEDAR, AND MOST OF THE Y. BIRCH AS A SEED SOURCE. TO DEVELOP FAVORABLE AREAS FOR THESE SPECIES TO REPRODUCE NATURALLY. 3. TO CREATE SEVERAL LONG CLEARCUT STRIPS THAT WILL FACILITATE SITE PREP TO PLANT W. PINE AND R. OAK.

MARKING PRESCRIPTION

PAINT COLOR BLUE

RESIDUAL BA 50 #REGENERATION GAPS\A SIZE (FT)

COMMENTS SHELTERWOOD MANAGEMENT. NO HEMLOCK, WHITE PINE, CEDAR, OR W. SPRUCE UNDER 14" DBH WILL BE CUT. ALL BALSAM FIR, ASPEN, BALM-OF-GILEAD, WHITE BIRCH WILL BE CUT. ALL HARDWOOD LEAVE TREES SHALL BE MARKED WITH BLUE PAINT

ACCORDING TO THE FOLLOWING SPECIFICATIONS: 1. BA OF ALL LEAVE SPECIES IS 50-80BA DEPENDING ON QUALITY AND DIAMETER OF THAT PATCH. , PURE CONIFER PATCHES MAY EXCEED THIS BA. 2. MARK ALL POTENTIAL SAWLOG QUALITY Y. BIRCH LESS THAN 12 " DBH AS LEAVE TREES. Y. BIRCH 12"+ MARK MOST LOW QUALITY SAWLOG AND PULP TREES AS LEAVE TREES, HARVESTING TREES THAT HAVE #2 AND BETTER SAWLOGS. SOME LOW QUALITY Y. BIRCH MAY BE MARKED TO LEAVE IN DENSE CONIFER PATCHES EVEN IF TOTAL BA EXCEEDS 70. 3. HARDWOODS MARKED AS LEAVE TREES MUST BE POLE OR SAWLOG TREES WHICH WILL SURVIVE, GROW IN DIAMETER OR QUALITY, OR HAVE THE POTENTIAL TO DEVELOP INTO A SAWLOG. 4. DEVELOP STRIPS FOR REGENERATION AS FOLLOWS: DO NOT MARK ANY LEAVE TREES EXCEPT Y. BIRCH WITHIN 100 FEET OF SOUTHERN RED PAINT LINES. MARK CENTER LINES IN GREEN PAINT IF NOT WITHIN 100 FEET OF RED PAINT LINE ON LEAVE TREE MARK AREAS. THESE STRIPS DO NOT NEED TO BE STRAIGHT. APPROXIMATE LOCATIONS ARE INDICATED ON MAP, FOR A TOTAL OF 160 CHAINS SOUTH OF RIVER, AND 240 CHAINS NORTH OF RIVER OF DESIGNATED REGENERATION STRIPS. DO NOT MARK ANY HARDWOOD LEAVE TREES IN THESE STRIPS EXCEPT YELLOW BIRCH. WITHIN THE SINGLE TREE SELECTION STANDS MARK ALL HARDWOODS FOR HARVEST WITHIN 33 FEET OF THIS LINE. THESE LINES MAYBE LAID OUT FOR USE AS HAUL ROADS OF SKID TRAILS. 5. PROTECT THE ORV TRAIL. 6. LEAVE 2-3 CHERRY AND 1 BEECH PER ACRE AS WILDLIFE TREES EXCEPT IN REGENERATION STRIPS.

VOLUME DETERMINATION ALL SUGAR AND RED MAPLE, WHITE AND YELLOW BIRCH, CHERRY, BEECH, AND W. SPRUCE MEETING SAWLOG STANDARDS AS SPECIFIED IN THE "PRODUCT STANDARDS" TO A 11" TOP DOB, SCRIBNER SCALE SHALL BE CRUISED AS SAWLOGS. ALL OTHER SPECIES OR PRODUCTS SHALL BE CRUISED AS PULP. EXTREME CARE MUST TAKEN TO ACCURATELY CRUISE THE SAWLOGS CORRECTLY. DETERMINE VOLUME BY CUTTING UNIT. DETERMINE THE AREA IN EACH CUTTING UNIT BY CONSTRUCTING A MAP WHILE CRUISING. THIS MAP WILL SHOW THE LOCATION OF GREEN PAINT LINES. UNIT XI SHALL HAVE 8 RANDOMLY SPACED POINTS. CRUISE ALL OTHER LEAVE TREE MARKING UNITS AT A 3X6 CHAIN SPACING IN AN EAST-WEST DIRECTION.

to Cat

TMENT 86
 SWK *Property Boundary*
Payment Unit Boundary
 Species are a mix of hard maple

Treatment Objectives

- ### Marking Boundaries and Area

Contractor boundary line work: approximately .25 miles of blue painted property line. Paint a green paint line, as shown on map, from the end of the present skid trail due west to the west property line to divide the sale into two payment units. The skid trail and the paint line will constitute the payment unit boundary. Keep and summarize marking tally separately by payment unit.

1. Create five 30-40 foot regeneration gaps per acre. Mark all trees 1" DBH and larger from regeneration gaps.
2. The residual BA excluding the small regeneration gaps shall be 85-90 sq. ft.
3. Leave 1 - 2 beech trees and cherry clumps per acre.
4. Crown release residual cherry that have potential sawlog quality.
5. Retain one or two den or cavity trees per acre if present, or retain potential trees, if one or two den/cavity trees are not present.
6. Manage for the best tree in place, regardless of species.
7. Select and release 50 to 60 crop trees per acre. Potential crop trees should be capable of producing 16 feet of veneer or grade 1 log. Crop trees less than 8" DBH will be given a 7' crown release. Remove two important crown competitors for 9" - 14" DBH crop trees.
8. The order of characteristics used to mark remove trees are:
 - a. all trees with Eutypella canker;
 - b. high risk trees;
 - c. potential risk trees;
 - d. trees with no potential to ever produce a sawlog;
 - e. defect such as rot, sweep, broken forks, forked trees;
 - f. mature trees;
(Trees are mature at the following DBH: hard maple - 22"; red maple - 18"; yellow birch - 18"; beech - 20"; cherry - 16"; basswood - 18"; white ash - 20". On the entire sale area, up to 10 large trees can be left to grow into super canopy trees.)
 - g. size class distribution.

9. If quality is equal, the preferred order to rank leave trees by species is: hard maple, cherry, yellow birch, basswood, white ash, red maple, beech.
10. Do not mark any white pine or hemlock present in the stand.
11. Over the sale area, leave 10 percent of larger ironwood and remove the remainder.
12. Release areas of high quality maple reproduction. Some of these areas may be up to one or two acres in size.
13. Expand the present skid trail to 30 feet in width by marking all trees. This will be the primary haul road.
14. Mark all cut trees with orange paint.
15. Mark all root sprung trees.
16. When deciding between two trees of equal quality, leave the larger tree if it is not larger than the maximum leave diameter.
17. For all hardwoods, except basswood, do not thin clumps. Either remove or leave the entire clump.

LAKE SUPERIOR STATE FOREST

NAUBINWAY AREA - MACKINAC COUNT

COMPARTMENT 86

2204 ACRES

T42N R12W SECTION 1, 2, 9, 10, 11, 12, 13, 14, 15, 16,
21, 22, 23; T44N R12W SECTION 30

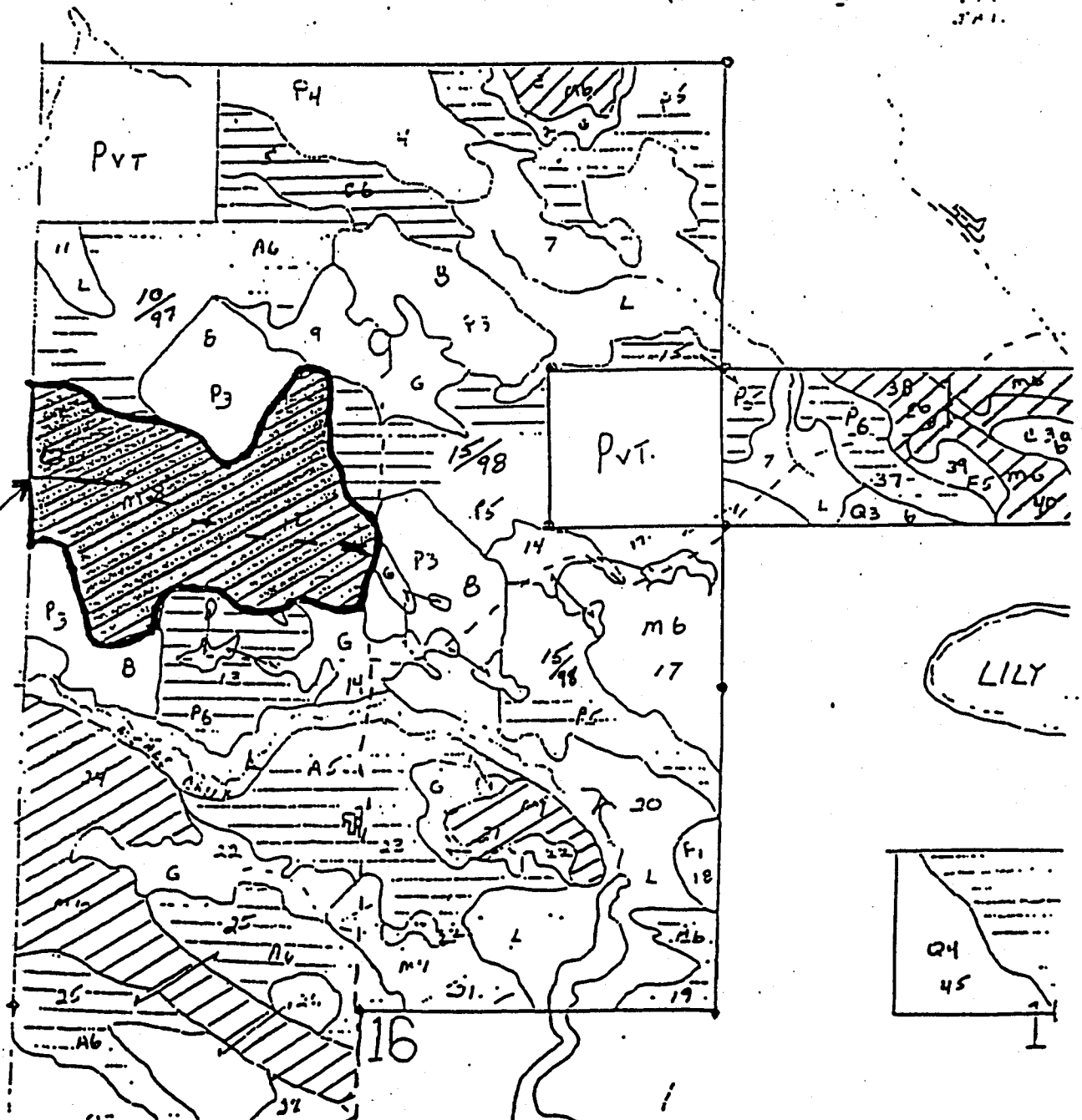
ENTRY YEAR - 1995

Scale: 1" = 1/4 mile
(MIRA: MAP)

27.5
34.1

eatment
Free

Green Paint
line



NORTHERN RED OAK MARKING CONTRACT
BALDWIN FIELD OFFICE
COMPARTMENT 23, 1998 YEAR OF ENTRY
STAND # 62 122 ACRES S.I. - 60 NORTHERN RED OAK TYPE
LAKE COUNTY, T18N, R11W, SECTION 30

*Mark Oak
to Cut*

STAND CONDITIONS

This stand is 122 acres on slightly rolling terrain of Rubicon sands with Loamy banding. This stand consists of average to high quality Northern Red Oak with associated trees of Aspen, Red maple, White Oak, Black Oak, and White Pine. The stand is 80 years old with an average B.A. of 120 sq. ft.

STAND PRESCRIPTIONS

The majority of the stand boundary is painted with red paint. Two exceptions are painted with blue paint. These include the SE line adjacent to private property and the northern most border adjacent to another timber sale boundary (see attached map). All Aspen and Red Maple will be removed by specification in the Timber Sale Contract. All Oak to be cut will be individually marked with orange paint. Reduce overall average B.A. of the stand to approximately 80 sq. ft. Residual Oak B.A. can be lower in heavy Aspen zones, and higher in areas where vigorous, healthy Oak are numerous. Other general marking guidelines are as follows:

- Remove all high risk Oak trees (i.e., damaged or potential damaged, or may not live another 10-20 years, etc.) of any diameter.
- Remove over-mature Oak trees, 24" D.B.H. and up, and others if showing signs of serious decline.
- Remove all dead Oak and tally separately (do not tally any rotted or decay wood).
- Remove poor-form Oak trees.
- Remove suppressed Oak (codominants showing signs of high stress (i.e. heavy epicormic branching, majority of crown loss, etc.).
- Do not discriminate regarding marking Red, White, or Black Oak species. The goal is to retain the most vigorous, healthy, and best form of all the Oaks, yet maintain some Oak species diversity.
- Leave some wildlife trees (den, nest, snag trees) approximately 1-2 per acre.
- Mark only Oak trees to be removed. Do not paint any other trees or shrubs with orange paint.
- No White Pine or Red Pine will be removed.
- Use a 10 B.A. factor prism or gauge and use International 1/4 inch rule.

See the Statewide Contract regarding other guidelines. Questions and other specifics will be covered during the first day on-site meeting. Contact persons at the Baldwin office are:

Craig Allen
616-745-4651 work
616-775-5578 home

Fran Ryan
616-745-4651 work
616-797-9152 home

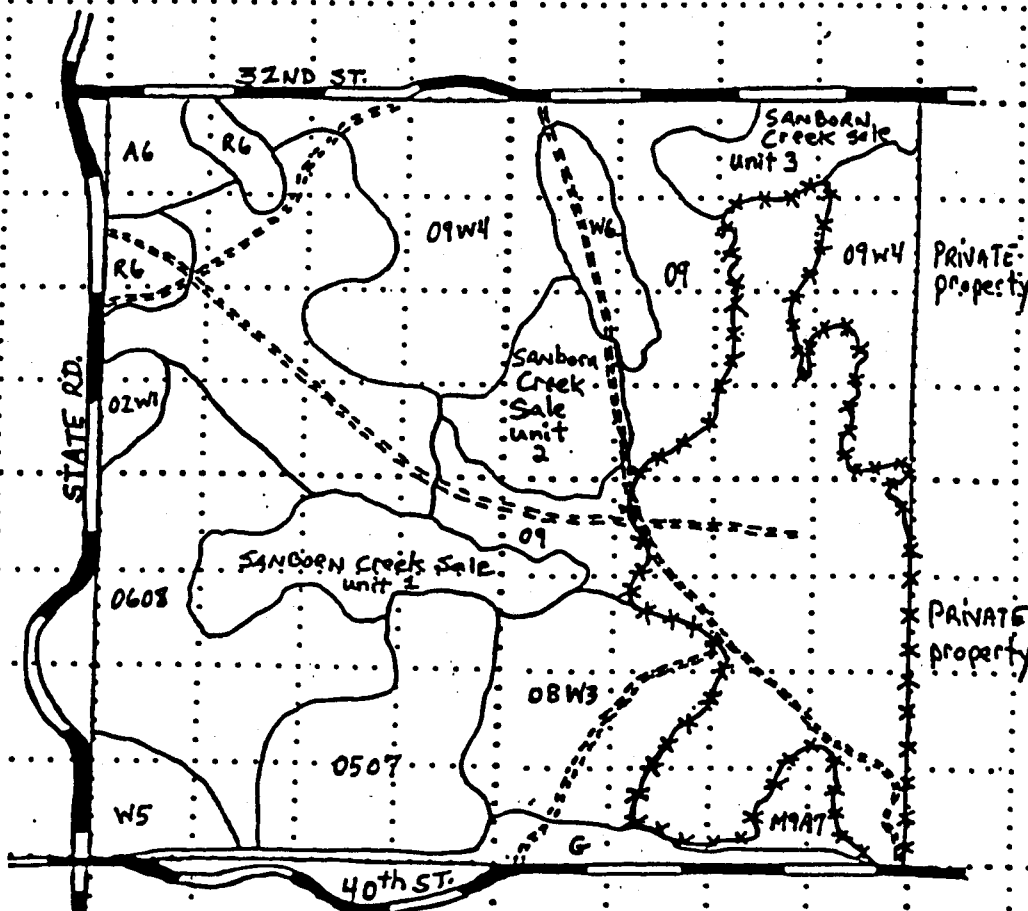
70 100 117.5 101

5-15-98

Scale: 1 inch = $\frac{1}{4}$

DENSITY

7 - Saw Timber Poor
8 - Saw Timber Medium
9 - Saw Timber Well



* Sale boundary

Goed die! Rand.

== 1/4" FOREST 2-track road

CRUISING PRESCRIPTION

Site Name: DELLS-MILLS CAFFEY RD clearcut

Cruising

Description:

Comp: 5

Stand: 20, 26

Acres: 25.2

Stand Description: UNIT XI : A MIX OF ASPEN, SPRUCE, FIR, WHITE BIRCH, LOW QUALITY HARDWOOD, HEMLOCK, AND WHITE PINE RIDGES TAPERING INTO A CONIFER SWAMP. UNIT V IS A OPENING BORDER OF ASPEN, FIR, WHITE BIRCH, LOW QUALITY HARDWOOD, W. & R PINE, AND W. SPRUCE.

Management Objective: ASPEN

Cruising Prescription:

Cruising Units 2

BA Factor 10

Total # of Points 30

Points per Payment Unit UNIT V 22
UNIT XI 8

Point Spacing (chains) 3X3

Cruise Direction NA

Cruise by Payment Unit YES

Cruise Following Species for Sawlogs and Pulp (sawlogs are cruised to an 11" DOB Scribner: RED AND SUGAR MAPLE, BEECH, CHERRY, W. SPRUCE. W. & R PINE.

Cruise All Other Species for Pulpwood Only: YES

Other Factors:

1. TREES ARE VERY SCATTERED IN EASTERN PORTION OF STAND.
2. CHERRY ARE VERY LOW QUALITY. CRUISE ONLY THOSE THAT HAVE USEABLE PULPWOOD STICKS.
3. PROBABLY W.&R PINE WILL NOT BE HARVESTED.